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5th Sem / ECE, ECE (For Speech and Hearing Impaired)

Subject : Instrumentation

Time : 3 Hrs. M.M. : 60

SECTION-A

Note: Multiple choice questions. All questions are compulsory (6x1=6)

Q.1 The transducers that convert a signal into an output signal which is continuous over time are known as ? (CO1)

a) Digital transducers b) Analog transducers

c) Active transducers d) Passive transducers

Q.2 A load cell sensor is used to measure? (CO3)

a) Light intensity b) Force

c) Viscosity d) None of the above

Q.3 The following sensors are used in measurement of temperature except? (CO5)

a) RTDs b) Thermistor

c) Potentiometer d) Bimetallic strip

Q.4 Which one of the techniques listed below, represent direct level sensing? (CO5)

a) Differential pressure level sensors

b) Capacitance level sensing

c) Sight glass

d) None of the above

Q.5 What is the moving part of a linear variable differential transformer ? (CO2)

a) Secondary Winding b) Primary Winding

c) Diaphragm d) Core

Q.6 The quantity of water in a particular volume of air is called (CO5)

a) Absolute humidity b) Specific humidity

c) Relative humidity d) Humidity during air

SECTION-B

Note: Objective/ Completion type questions. All questions are compulsory. (6x1=6)

Q.7 Define a measurement system. (CO1)

Q.8 Describe the function of display devices. (CO1)

Q.9 Define pressure. (CO4)

Q.10 Write the full form of RTD. (CO5)

Q.11 What do you mean by torque? (CO3)

Q.12 Write the formula of PH. (CO1)

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

Q.13 What is the importance of measurement in engineering. (CO1)

Q.14 Briefly differentiate between active and passive transducers. (CO1)

Q.15 Explain the basics of a capacitive transducer. (CO1)

Q.16 Describe the working principle of electromagnetic Flow meter. (CO4)

Q.17 How vibrations can be measured? (CO5)

Q.18 Explain the basic principle of hair hygrometer. (CO5)

Q.19 Explain the working principle of any pressure cell. (CO4)

Q.20 Describe any one method of speed measurement of motor . (CO3)

Q.21 Explain the basic working of a load cell. (CO3)

Q.22 How pressure is measured using Bourden tube? (CO4)

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

Q.23 Explain the construction and working of a thermocouple. Explain in detail how thermocouples are used in industrial applications. (CO5)

Q.24 Explain in detail the construction, working principle and applications of LVDT (CO2)

Q.25 What is strain gauge? Explain its working principle and write the formula of gauge factor. What are the applications of strain gauges. Explain the construction of foil type strain gauge. (CO2)